THE MOUNTAINEER.

"DO WHAT IS RIGHT, LET THE CONSEQUENCE FOLLOW!"

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[For the Mountaineer.]

HAPPY WE'LL BE.

AIR—"*Ever of Thee.*"

Happy we'll be! though life hath its sorrows,
Which with our joys will ever keep pace;
The storm soon is o'er, the peaceful calm follows,
And gloom to the sunshine will have to give place.
The glad beams of Hope shall banish our sadness,
And Faith every feeling of doubt will dispel;
Though cares may assail—if the heart's stored with gladness
They will pass by us, and all will be well.
There's bliss in the future, we'll trust and be free;
Confidence cheers us, and happy we'll be.

Happy we'll be! we've Heaven before us
With beacons to guide, and a safe course to steer;
And Love's golden chain, so gently thrown o'er us,
Shall bind us forever to those that are dear.
Though keen be the pang, when the fond tear is starting,
And fails the strength of our heart-strings may prove;
The pang and the tear which spring up at parting
Are only unfolding the wealth of our love.
There's bliss in the future, we'll trust and be free,
Confidence cheers us, and happy we'll be.

Happy we'll be! for years are but fleeting,
The troubles of this world will soon all be o'er;
Though painful to part, yet how sweet is the meeting.
For pain only heightens our pleasure the more.
Time cannot break, nor distance o'er sever
The bonds that unite us, though tender the ties;
Grief is but transient, LOVE LIVES FOREVER—
The Phœnix that o'er all our troubles will rise.
There's bliss in the future, we'll trust and be free,
Confidence cheers us, and happy we'll be.

JAMES BOND.

ASTRONOMY.

A LECTURE DELIVERED IN GREAT SALT LAKE CITY.

ASTRONOMY is a mixed mathematical science, teaching the knowledge of the celestial bodies, their magnitudes, motions, distances, periods, eclipses, and order. The celestial bodies consist of the sun, moon, planets, comets and stars, by which we are surrounded in infinite space.

The sun, to which we are indebted for our light, is nearly a million times larger than the earth on which we live, and is ninety-five millions of miles from us. It is the centre of a vast system of planets or globes like the earth, all of which move round his body at great distances, and in different periods of time. Yet the sun with all its attendant planets, is but a very little part of the grand machine of the Universe. The stars which we behold in the sky, though, owing to their immense distance, they appear very small, are no less spacious and luminous than the source of our day.

The planets which move round the sun are about sixty in number, of which eight may be said to rank in the first class, inasmuch as they move in orbits considerably removed from each other, which makes them comparatively independent; while a group of small bodies called asteroids, fifty-two in number, may be said to have but one orbitual part in the series, and thus to be only co-ordinate with one of the rest. These two kinds are called PRIMARY planets, to distinguish them from others which move round some of the primaries, and which are called secondaries, satellites, or moons, of which there are nineteen. Besides these bodies, there is an unknown number of bodies called COMETS.

The primary planets are—Mercury, Venus, the Earth, Mars, Vesta, Ceres, Pallas, Juno, Astræa, Flora, Victoria, Iris, Metis, Hebe, Parthenope, Egeria, Irene, Hygeia, Jupiter, Saturn, Uranus, and Neptune, besides a number of other asteriods, recently discovered, whose names I have not given. The Earth has one satellite, the Moon; Jupiter has four; Saturn, seven; Uranus is supposed to have six; and Neptune one.

The planets revolve round the sun, from west to east, on nearly one level or plane, corresponding with the centre of his body, and in the same direction. The moons also revolve round their respective planets, and in the same direction, from west to east. These motions are called REVOLUTIONARY motions; and they are double in the case of the moons, which have at once a revolution round their planets, and a revolution, in company with the planets, round the sun. The path of a planet in its revolution is called ORBIT. Besides this motion of revolution, each planet, secondary as well as primary, and the sun also, has a motion in its own body, like that of a bobbin upon a spindle. An imaginary line, forming, as it were, the spindle of the sun or planet, is called the AXIS; and the two ends of the axis are denominated the POLES. The axes of the sun and planets are all nearly at a right angle with the plane of the revolutionary movements. The motion on the axis is called the ROTATORY motion.

I shall now give a more minute description of the SUN and its attendant planets, moons and comets, which comprise what is known as the Solar System.

The SUN is a sphere or globe, of 882,000 miles in diameter, or over a million times the size of this earth, moving round its axis in 25 days. When viewed through a telescope, its surface appears very bright and luminous, as if imparting both heat and light to all the surrounding planets. A number of dark spots may, however, be seen on different parts of his surface. These consist of a nucleus, which is much darker than the rest, and surrounded by a mist, or smoke; and they are so changeable as frequently to vary during the time of observation. Some of the largest of them exceed the bulk of the whole earth, and are often seen for three months together; and they are supposed to be cavities in the body of the sun. Though the sun is so much larger than the earth, its matter is only about one-fourth the density of our planet, or but little more than the density of water.

The sun is surrounded to a great distance by a faint light, or luminous matter of great thinness, shaped like a lens or magnifying glass, the body of the sun being in the centre, and the luminous matter extending in the plane of the planetary revolutions, till it terminates in a point. Sometimes it may be seen before sunrise or after sunset, in the form of a cone pointing obliquely above where the sun happens to be, and is called the ZODIACAL LIGHT.

MERCURY is the nearest planet to the sun, and is a globe of about 3,140 miles in diameter, rotating on its axis in 24 hours and 5 minutes, and revolving round the sun, at a distance of about 37 millions of miles, in 88 days. From the earth it can only be seen occasionally in the morning or evening, as it never rises before, or sets after the sun, at a greater distance of time than 1 hour and 55 minutes. It appears to the eye as a small and brilliant star, but when seen through a telescope is horned like the moon, because we only see a part of the surface which the sun is illuminating. Great mountains, one more than ten miles in height, have been observed on the surface of this planet. The matter of Mercury is equal to lead in weight, which is of much greater density than that of the earth.

VENUS is a planet of about 7,800 miles in diameter, or nearly the size of the earth, rotating on its axis in 23 hours 21 minutes and 19 seconds, and revolving round the sun, at the distance of 68 millions of miles, in 225 days. Like Mercury, it is only visible to us in the morning and evening, before sunrise and after sunset; and is best known as the Morning or Evening Star. It appears to us the most brilliant and beautiful of the planetary and stellar bodies; and at times giving so much light, as to produce a sensible shadow. When seen through a telescope it appears horned, on account of our seeing only a part of its luminous surface, and occasionally slight spots can be seen on the illuminated part. Its surface seems to be very unequal, and its mountains range between 10 and 22 miles in height; and is supposed to have an atmosphere similar to the earth's. Venus is seen passing over the face of the sun sometimes, like a round dark spot.

The EARTH, the third planet in order, and one of the smaller size, though not the smallest, is the one that concerns us the most. It is 7,912 miles in mean diameter, rotating on its axis in 24 hours, at a mean distance of 95,000,000 of miles from the sun, around which it revolves in 365 days 5 hours 48 minutes and 49 seconds. The form of the earth, and probably that of every other planet, is not strictly round like a ball, but is flattened a little at the poles, or extremities of the axis. The diameter of the earth at the axis is 26 miles less than in the cross direction. This peculiarity of form is in consequence of the rotatory motion. If this earth was viewed from the moon, the distinction between its seas, oceans, continents, and islands would be clearly marked; for they would appear like brighter and darker spots upon its disc or face. And the earth would appear to an observer in the moon as another great moon, about fifty times the size of the one he would be standing on; and to him the earth also would appear so many times larger than the sun itself.

The Earth has one satellite, the Moon, which is a globe of 2160 miles in diameter, and consequently about the fiftieth part of the size of the earth, revolving round it in 27 days, 7 hours, 43 minutes and 11 seconds, at the distance of 237,000 miles. The Moon is 400 times nearer the earth than the sun is; but being so much smaller, it appears to us of about the same size. The Moon always keeps the same side towards the earth, so that she turns once on her axis as she moves round the earth; and her day and night are, consequently, as long as the period from new moon to full moon. As I stated before, the earth acts as a moon to her, being at the same time more luminous; so when it is new moon to the earth, it is a full earth to the moon, and vice-versa. As the Moon shines with no light beside that which she reflects from the Sun, it is evident that her shape must depend on her position in regard to the sun and earth. When the earth is exactly in the middle, the whole illumed side of the moon will be towards the earth, and it will be a full moon. When the moon is in the middle, her dark side will be presented to the earth; and it will be new, or no moon. As she proceeds from new to full, more and more of her light side will appear, or it will increase; and on going from full to new, it will, of course, decrease.

As both earth and moon cast long shadows, it is evident, if they moved on the same level, that every time the earth passes between the sun and moon, the earth's shadow would fall on it, and darken or eclipse the moon; and that every time the moon passes between the sun and earth, the moon's shadow would eclipse the sun. The Moon, however, ascends and descends 5 degrees in every revolution, so that in general the shadows pass under or over; but when the new or full moon takes place at the very time she is passing the plane of the earth's orbit, in ascending or descending, then the striking phenomena of an eclipse takes place. The shadow of the earth, as seen on the moon, demonstrates its rotundity; and the shadow of the moon on the earth, proves that it is nearer than the sun; so the passing of the moon over the planets and stars, called Occultations, proves that they are more distant than the Moon.

(To be continued.)

AN HONEST WITNESS.

A GENUINE Irishman often turns his wit to good account in the witness-box, and answers the questions of bar and bench without giving much light on the question at issue. The following is a case in point from the Philadelphia "North American:"

Some of the drollest things that ever present themselves to the notice of a reporter, are the efforts made by lawyers to draw the testimony they desire from refractory or stubborn witnesses. We saw a Milesian gentleman upon the stand the other day, who fairly bothered one of the shrewdest lawyers in Philadelphia. The case was an assault and battery, in which the exotic in question was called upon to testify for the prosecution before a Police Magistrate. The dialogue that opened up was as follows:

"Mr. O'Daily, where do you live?"

"In Clinton-street, yer honor."

"And which way does Clinton-street run?"

"Length-ways, sir."

"Which way is that, north or south?"

"If you stand at the upper end, it runs south, sir; if you stand at the lower end, it runs north."

"Then you mean to say it runs north and south?"

"Yes, sir; provided you stand midway between the ends."

"And what is the width of Clinton-street, Mr. O'Dailey?"

"From side to side do you mean?"

"Yes; what is the width from side to side?"

"Well, as near as I can come to it, it is just the distance from one sidewalk to the other. It may be, but I'd not take by Bible oath of it."

"With whom do you reside, Mr. O'Daily?"

"With the man I board with."

"And who is he?"

"Do you know Dennis—Mike Dennis, the butcher?"

"I havn't that honor."

"Then how can you know who I board with?"

"Do you mean to say you board with Dennis?"

"An' if I didn't, why should I hand his wife two dollars every Saturday night—barrin' the last one?"

The Magistrate informed Mr. O'Dailey that he might leave the stand. He did so, and with a look of wisdom worthy of Solomon himself.

LETTER OF MR. WEBSTER TO A YOUNG LADY.

LANMAN'S forthcoming private life of Daniel Webster contains the following letter. It was addressed to a young lady who had been spending a social evening at Mr. Webster's house, and on account of the rain, had substituted a borrowed hood for her own bonnet; and the note in question was delivered with the bonnet, at the residence of the lady, by Mr. Webster, while driving to his office the next morning:

"MONDAY MORNING, March 4, '44.

"MY DEAR JOSEPHINE:—I fear you got a wetting last evening, as it rained fast soon after you left our door; and I avail myself of the return of your bonnet to express the wish that you are well this morning, and without cold.

"I have demanded parlance with your Bonnet; have asked it how many tender looks it has noticed to be directed under it; what soft words it has heard, close to its side; in what instances an air of triumph has caused it to be tossed; and whether, ever, and when, it has quivered from trembling emotions, proceeding from below. But it has proved itself a faithful keeper of secrets, and would answer none of my questions. It only remained for me to attempt to surprise it into confession, by pronouncing sundry names, one after another. It seemed quite unmoved by most of these, but at the apparently unexpected mention of one, I thought its ribbands decidedly fluttered!

"I gave it my parting good wishes, hoping that it might never cover an aching head, and that the eyes which it protects from the rays of the sun, may know no tears but of joy and affection.

"Yours, dear Josephine, with affectionate regard,

"DANIEL WEBSTER.

"Miss J. Seaton."

THE POLICE IN PARIS AND IN AMERICAN CITIES.

IN the memoirs of Vidocq several instances are related to show the perfection of the police system under his management. A gentleman would, for instance, receive an intimation from the police that his house was about to be broken into on a particular night, but that he and his family were to go quietly to bed as usual, only admitting a few policemen, who would be quietly concealed under his bed until the hour when the burglars would break in, and the police rise up and seize them, when about to commence the work of murder. Such, indeed, is the perfection, if so it may be called, of the police system in Paris, that it is, at this moment, hardly possible for a stranger to be in the city twelve hours before his real name, his occupation and his business and friends are well known to the police. Thieves and robbers do not prosper. Their houses are spotted; their haunts and plans are known, and generally frustrated. Combination, to any considerable extent, is impossible, and Paris is so covered with spies and police agents that the outrages and crimes so common in our cities are unknown there.

We are, in fact, quite in the other extreme. There the police mingle, disguised, with every class of evil-doers. With us all sorts of evil doers freely enter the police, betray all their plans, and most industriously and officiously thwart all plans for the detection and breaking up of their establishments. There is hardly a house of ill-fame or robbery in the city of New York but what is the proprietor of two or three policemen. The fashionable houses up-town own the captains and lieutenants, and the lower order of brothels and panel houses the privates. Aldermen are, some of them, elected and paid on purpose to cover and aid in the commission of crimes. The most flagrant outrages are daily committed upon persons and property, yet the police take care never to discover the perpetrators. The revelations which occasionally meet the public eye in our own city, show that the police here are not a bit better than they ought to be, and are too familiar, much more so than their business requires, with the criminals of the city and its vicious population, and are too much disposed to connive at practices which ought to be suppressed.—[Dollar Newspaper.

RECIPES.

TO PRESERVE EGGS.—Pack the eggs to be preserved in common salt, with the small ends downwards, and they will keep for eight or nine months.

A BLACK VARNISH FOR OLD STRAW HATS.—Mix two ounces of spirits of wine with half an ounce of black sealing-wax powdered; cover, and place in the heat of the fire, stirring occasionally till the wax is melted; then spread it over with a brush. The same varnish may be used for small baskets.

TO REMOVE IRON MOULDS.—1. Rub the spot with a little powdered oxalic acid, or salts of lemon, and warm water; let it remain a few minutes, and well rinse in clean water. 2. Wash the spots with a strong solution of cream of tartar and water; repeat, if necessary, and dry in the sun.

PROVERBS AND OLD SAYINGS.

AN hour in the morning is worth two in the afternoon.

A single fact is worth a ship-load of argument.

A willing mind makes a light foot.

Better go to bed supperless than to rise in debt.

Fire and water are good servants, but bad masters.

Fools make feasts, and wise men eat them.

MISCELLANEOUS.

THE SELF-PROPELLING STEAM FIRE ENGINES, used in New York, do not seem to be in much favor. The Journal of Commerce says, it has been found that the larger self-propelling engine will not operate r liably at fires, and it is now, therefore, entirely out of use. A smaller one is on trial.

MEXICO.—The Courier's special correspondent says that it was reported that the Mexican Bishop was willing to guarantee a loan of five millions to Miramon by pledging the church property. The Archbishop and clergy were bitterly opposed to the policy. It was reported that Vidaurri had joined the church party.

The Rev. C. H. Spurgeon has written a letter to his friends in America, in which he declares that, in his belief, immersion is the only Christian baptism; and that he believes that members of all Christian communities should be admitted to the Communion.

The English papers announce the death of John Pringle Nichol, *LL.D., Professor of Astronomy in the University of Glasgow*, whose visit to the United States, a few years since, will be remembered by most of our readers.

A BOY WITH HORNS.—The Hinds County (Miss.) *Gazette* gives an account of a negro boy in that region, eight years old, who has horns on his head like a "young devil." The horns are said to be three inches long, to project from the head above each ear, and to interfere considerably with wearing a hat. They are stiff and hard, but not flinty, as the horns of quadrupeds.

WATER GAS AT WILMINGTON.—A few weeks ago, the neighboring city of Wilmington was splendidly lighted with gas made from water, under the patent of Professor Sanders, of Cincinnati. The charges were drawn from the retorts; the supply of coal-gas was turned off, the water-gas was run through the pipes, and Wilmington had a light thrice as brilliant, thrice as pure, as any it had ever known before. The theory of Sanders's process is this: Water, as steam, is decomposed by being passed over red-hot charcoal, and the resulting gases (hydrogen, carbonic oxide, and light carburetted hydrogen) are chemically combined with heavy carburetted hydrogen, or light giving gas, by the decomposition of rosin or coal vapor, simultaneously with, and in the presence of, the decomposition of the vapor of water.

According to the latest accounts at Paris the treaty between France and Cochin China was expected to be signed on the 1st of August. The French Admiral had obtained four important concessions—viz: the exercise of the Christian religion; a treaty of commerce, the first ever entered into by Cochin China; the cession to France of the fine town of Segan and its territory; and fourth, recognizing the rights of the French to the Bay of Saron.

A tremendous hail storm occurred in the Lake Superior mining region on the 10th of October. The hailstones are reported to have been seven inches in circumference, weighing four ounces! One piece of ice was found that weighed half a pound. Great damage was done to window glass, and garden vegetables.

PHILADELPHIA.—Among the curiosities of the Publication House is a machine for directing newspapers. It is a curious affair. It is about as large as a card press, and is run by the foot. It directs the paper—throws it off the form—cants it on a revolving carriage, and puts it in the mail bag at one operation! It is able to direct three thousand newspapers per hour, and does the work of twenty clerks. It cannot be described—it must be seen. It seems to have more intelligence than many human beings.

The Springfield "Republican" has a poor opinion of tobacco raising. It says, "If there is any dirtier work than raising tobacco except chewing it, we should like to know it. A gum issues from green tobacco that covers everything that it comes in contact with. We met recently a troop of men fresh from the tobacco field, that in any other portion of the world than this, would pass for Hottentots. They looked as if they always burrowed in the ground, and in hands and face, as well as dress, were the color of woodchucks."

M. Victor Meunier, a well known scientific writer, informs the world that the next deluge will certainly not take place for 6,300 years—a piece of information which will be satisfactory to the present generation.

The northern counties of Wisconsin are infested by bears, who have been forced by the severe drouth to enter the settlements in search of the "necessaries of life." The settlers have had numerous encounters with them, and have killed many. A woman was killed by one of them at Melanethon Creek last week.

President Buchanan, says a correspondent of *The Press*, has four newspaper organs. First, his official organ, *The Constitution*; secondly, his personal organ, *The N. Y. Herald*; thirdly, his family organ, in your city; and fourthly, his home organ, *The Lancaster Intelligencer and Journal*.